



SAIL AWAY WITH THE NATURE CAT CREW!

DIFFICULTY: HARD

Let's catch the wind! Wind is air in motion. It can keep a kite high in the sky, and push a boat right across the water. Ready to make your own sailboat?

MATERIALS

- 11 sticks all about the same length and thickness (about 9 inches long)
- 1 thin, short stick (about 7 inches long)
- 1 thin, short stick (about 4 inches long)
- Rubber bands
- Twist ties
- Safety scissors
- Waterproof glue or three thumbtacks
- Large leaf or lightweight piece of fabric (such as a rag)
- Twine (optional)



LET'S MAKE A BOAT!

- 1 First let's build the mast. Make a lower case "t" shape with your two shorter sticks. Cross the 4 inch stick over the 7 inch stick about three inches from the top.
- 2 Lay the twist ties in an "X" underneath the crossed sticks. There should be an even amount of the twist tie on each side of the sticks. Now twist the ties together!



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- 3 You should now see an "X" made of the twist ties, crossed over your two sticks (see Step 3 photo). Tah dee! Repeat this step over the same sticks to keep them in place!

- 4 Let's make the sail. Find a large leaf outside, or cut some fabric into a square shape. It should be about the same width as the stick running across and a little more than half of the length of the longer stick.



- 5 Attach your sail with waterproof glue across the "t" or place a thumbtack near the top and on either side of the stick running across. Set aside.



- 6 Time to make the base of your boat! Gather your rubber bands and sticks! We'll use the rubber bands to attach the sticks to each other.

- 7 Place one of your long sticks through a rubber band. Twist the remaining piece of rubber band twice so the stick feels secure. (See Step 7 photo) Insert another long stick into the empty loop of the same rubber band and twist twice. Repeat with long sticks until you have at least 5 joined together and the rubber band feels tight around all of the sticks.

- 8 Repeat step 7 on the opposite end of the sticks. Make sure they are joined together and can lay flat!



- 9 Make another bundle with four sticks (see Step 9 photo) joining the sticks on both ends. This time, loop an extra rubber band around the last stick.



STEP 3



STEP 7



STEP 9



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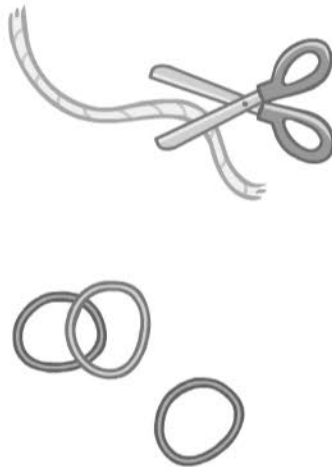
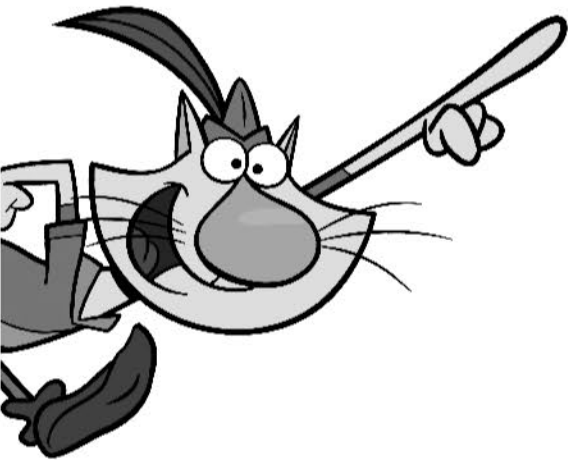


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- 10 Lay the bundles next to each other use the extra rubber band you just looped to connect the two bundles together (see Step 10 photo).
- 11 Time to finish the base of your boat! Take your two remaining long sticks and lay them vertically. Place the nine connected sticks horizontally over them. Using your rubber bands or twist ties, tie the corners of your boat base to the tops and bottoms of the two sticks beneath them (see Step 11 photo).
- 12 Tah dee! You have a boat! Use the twist ties and attach the mast to your first stick at the front of your raft. The tiller should be attached at the middle of the stick (see Step 12 photo).
- 13 Tie a long length of twine to the bottom of the tiller. This will help you steer it from the shore – and not lose your boat! And you are ready to set sail!



STEP 10



STEP 11



STEP 12



A CLOSER LOOK AT WIND

Try to use your boat to see which direction the wind is coming from. What happens when your boat is facing the wind? What happens when the wind is coming from behind your boat?

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